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# PCT

Form PCT/ISA/206 (April 2005)

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-27,37-47

Mining in a database of functional maps for diagnosis and classification purposes.

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2. claims: 28-36

Image acquisition in which the process of capturing is controlled based on the analysis of a preliminary functional image (map).

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The application appears to lack unity within the meaning of Rule 13.1 PCT, since it does not seem to relate to one invention only or to a group of inventions so linked as to form a single general inventive concept.

In fact, claims 1, 19 and 23 have been drafted as roof-type claims with a general concept defined in lines 3-8 of claim 1 and three alternatives specified at the end of claim 1. With these alternatives, claim 1 effectively separates into three independent claims, directed to using the "matching set" for image acquisition, diagnosis and classification respectively. The latter two issues, diagnosis and classification, seem to be closely related, whereas image acquisition solves a different technical problem and requires an extra search.

Therefore, the application is considered to contain the following two separate inventions:

1) Claims: 1-27 and 37-47.

The first invention refers to a method (claim 1), a system (claim 19), and a distributed system (claim 23) for analyzing a received functional map. The same invention is further defined using different wording as a research tool (claim 24) and a method for calculating a treatment recommendation (claim 37).

The purpose of the first group of inventions is to mine a database of functional maps for diagnosis and classification.

2) Claims: 28-36.

The second invention refers to an imaging system (claim 28) and a method for obtaining a functional image (claim 33) in which the process of capturing (and a corresponding "detector" in a system) is controlled based on the analysis of a preliminary functional image (map).

The technical problem solved here is to improve the quality of a captured medical image.

As noted above, there is in fact a single general concept with the

following features common to both inventions:

- "receiving a functional map" (obtaining an input image),
- "managing a plurality of functional maps associated with biological activity indications" (i.e. providing a database of functional maps),
- "identifying a matching set of said managed functional maps by matching between (...) biological activity indications".

These features are, however, known from document US 2004/0003001 (D1) which is cited in the search report. This document discloses a system for searching for similar images in a database containing medical images and associated medical information (cf. par. [0012,18] in D1), wherein the search is based on image content or associated medical information. Thus, regarding document D1, the single general concept linking the two invention appears to be not new and not inventive within the meaning of Article 33 PCT. Furthermore, the two technical problems of the abovementioned inventions are solved by different and not corresponding special technical features.

**Annex to Form PCT/ISA/206  
COMMUNICATION RELATING TO THE RESULTS  
OF THE PARTIAL INTERNATIONAL SEARCH**

International Application No  
**PCT/IL2007/001588**

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:
2. see 'Invitation to pay additional fees'  
This communication is not the international search report which will be established according to Article 18 and Rule 43.
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/003001 A1 (SHIMURA KAZUO [JP]) 1 January 2004 (2004-01-01)  pages 1-6, paragraphs 9-25,51	1-4, 6-19, 21-27, 37-47
X	WO 2006/042077 A (VIATRONIX INC [US]; CHEN DONGQING [US]) 20 April 2006 (2006-04-20) pages 2,12	1,5,19, 20,23,24

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

# Patent Family Annex

Information on patent family members

International Application No

PCT/IL2007/001588

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2004003001	A1	01-01-2004	JP	2004005364 A	08-01-2004
WO 2006042077	A	20-04-2006	WO	2006042191 A2	20-04-2006